

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION

SASO GOLF, INC.,

Plaintiff,

v.

NIKE, INC.,

Defendant.

Case No. 08 C 1110

Hon. Harry D. Leinenweber

**MEMORANDUM OPINION AND ORDER**

Before the Court are the parties' briefs on construing Claim 7 of U.S. Patent No. 5,645,495 (hereinafter, the "'495 Patent"). The Court's construction and its reasoning are stated herein.

**I. BACKGROUND**

Saso Golf, Inc. (hereinafter, "Saso") accuses Nike, Inc. (hereinafter, "Nike") of infringing its '495 Patent for a golf club. The effective filing date for Saso's patent is December 21, 1991. The patent was granted on July 8, 1997. Saso's invention is a golf club that purports to improve the flying distance and directional stability of a hit golf ball by, among other things, moving the center of gravity of the club's head away from the toe end and toward the heel end. The invention does this by decreasing the volume of the head at the toe end and increasing the volume at the heel end. Although the patent applies to both irons and metal

wood clubs, the present controversy concerns only the patent's application to metal wood clubs.

The litigation is now at the claim construction stage, and the parties agree that Claim 7 of the patent (the "Claim") is the only disputed claim. Claim 7 reads as follows:

7. A golf club comprising:

a metallic wood type head including a cylindrical hosel portion formed integrally therewith;  
said metallic wood type head having a heel side and a toe side, said metallic wood type head having a hitting surface extending from the toe side to said heel side, the hitting surface having substantially the same curvature along a transverse direction as a longitudinal direction,  
said metallic wood type head further comprising a toe, a heel, and a back side profile shape extending from the toe side to the heel side, said back side profile shape between the toe and a most rearwardly point of said metallic wood type head having a radius of curvature that is larger than the radius of curvature of said back side profile shape between the most rearwardly point of said metallic wood type head and the heel.

The parties dispute the meanings of ten terms in the Claim: "hitting surface," "toe," "heel," "toe side," "heel side," "back side profile shape," "most rearwardly point," "a radius of curvature," "the radius of curvature," and "golf club."

## **II. LEGAL STANDARDS**

Claim interpretation is a question of law to be determined by the Court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976-78 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370, 372 (1996). Judicial construction is reserved for "when the meaning or scope of

technical terms and words of art is unclear and in dispute.” *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1360 (Fed. Cir. 2004). It is well settled that in interpreting an asserted claim, a court should look first to the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and the prosecution history. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

As a first step, a court should look to the words of the claims themselves to define the scope of the patented invention. *Id.* Although words in a claim are generally given their ordinary and customary meanings, a patentee may use terms in a manner other than their ordinary meaning, as long as the patent specification clearly states the special definition. *Id.* A court must construe the claim language according to the meaning of the words to a person skilled in the art as of the application date. *See, W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1556 (Fed. Cir. 1983).

Second, to determine if a patentee has used any claim terms in a manner inconsistent with the ordinary and customary meaning, the court must review the patent specification. *Vitronics*, 90 F.3d at 1582. Claims must be analyzed in view of the specification. *Markman*, 52 F.3d at 979. A patent specification acts as a dictionary when it expressly either defines claim terms or defines terms by implication. *Vitronics*, 90 F.3d at 1582 (“Usually, [the

specification] is dispositive; it is the single best guide to the meaning of a disputed term." ). As a general rule, the claims of a patent are not limited to the preferred embodiment or to the examples in the specification. *Dow Chem. Co. v. United States*, 226 F.3d 1334, 1342 (Fed. Cir. 2000).

As a third step, a court should also consider the prosecution history of the patent, if in evidence. *Markman*, 52 F.3d at 980; *Vitronics*, 90 F.3d at 1582.

If claim language remains unclear after review of the intrinsic record, a court "may look to extrinsic evidence to help resolve the lack of clarity." *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1332 (Fed. Cir. 2001). The court may look to extrinsic evidence such as expert and inventor testimony, dictionaries, and learned treatises. *Markman*, 52 F.3d at 980. The court may consult, for example, general or technical dictionaries to assist in determining the commonly understood meaning of a term. *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202-04 (Fed. Cir. 2002). The Federal Circuit, however, ruling en banc, has reaffirmed the primacy of the intrinsic evidence, making it clear that extrinsic sources such as dictionaries must not be used in such a way as to contradict claim meaning that is unambiguous in light of the intrinsic evidence. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317-24 (Fed. Cir. 2005) (en banc).

### III. DISCUSSION

While Saso offers a proposed construction for the entire Claim, Nike argues that nine of the ten disputed terms are insolubly ambiguous and offers an alternative construction for the term "golf club" only. Nike does not suggest that the disputed terms cannot be defined, only that in the context of the patent they would have had numerous possible meanings to a person of skill in the art when Saso filed the patent application in 1991. Nike therefore argues that the Claim is indefinite.

A finding of indefiniteness, however, would render a claim invalid. *Exxon Research and Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001). Patents are presumed valid under 35 U.S.C. § 282. To prove indefiniteness, therefore, an accused infringer must demonstrate, not merely by a preponderance of the evidence, but by *clear and convincing* evidence that "a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area." *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249-50 (Fed. Cir. 2008). A court will find claims indefinite only when reasonable efforts at claim construction prove futile, in accordance with the respect due to the statutory presumption of validity. See *Exxon*, 265 F.3d at 1375.

Nike's indefiniteness argument rests partially on its assertion that Saso has espoused different definitions of several of the disputed terms, making it impossible to determine what is meant by the Claim terms. The Court finds, however, that Nike clouds the issue by citing to statements that are either inadmissible settlement communications, see, FED. R. EVID. 408, or statements of third parties. The Court will disregard such statements. Its analysis of the Claim will rely primarily on the Claim itself, the specification, and the prosecution history, consulting appropriate extrinsic evidence only as needed.

#### **A. Disputed Terms**

The Court will begin by construing the disputed terms. The Court's descriptions assume a right-handed golf club held by a right-handed golfer – who is set in a normal swing stance prior to taking a backswing to strike a golf ball – with the sole of the golf club touching the ground.

##### **1. Hitting Surface**

The Court construes "hitting surface" to refer to the "face of the golf club head, *i.e.*, the surface of the head that makes contact with the ball during striking."

##### **2. Toe, Heel, Toe Side, Heel Side**

The parties do not dispute that toe and heel are commonly used terms in reference to golf club heads – heel referring generally to the portion of the head closest to the shaft and to the golfer,

while the toe is generally the portion of the head farthest from the shaft. Nike argues, however, that the terms are so loosely used by those skilled in the art that the toe, for example, could refer to a point on the far end of the head or a section of that end. If it refers to a point, Nike argues, it is not always clear which point is meant.

*a. Toe*

Saso construes "toe" as referring to an area of, rather than a point on, the far end of the club head. Specifically, Saso construes "toe" to mean "the sidewall region of the club head that is the side portion opposite from the heel extending vertically from the sole to the top portion of the club head."

The Court construes the terms "sole," "top," and "sidewall," which are not in dispute, according to their ordinary meanings. "Sole" refers to the bottom part of the club head, which rests on the ground. The "top" (or "crown") is the portion of the club head opposite the sole. "Sidewall" refers to a wall forming the side of the club. The "shaft" is the long, narrow section of the golf club that includes the handle (or "grip") of the club, by which the golfer holds the club.

The Court therefore construes "toe" as "the sidewall region of the club head (not including the face, or hitting surface) opposite the shaft, extending vertically from the sole to the top portion of the club head." The Court does not find, for the purposes of this

invention, that the definition of "toe" must be so exact as to refer to a single point on the club head.

*b. Heel*

Saso construes "heel" as "the sidewall region of the club head on the shaft side, extending vertically from the sole (the bottom of the club head) to the crown (the top portion of the club head)."

The Court accepts this construction with a similar clarification to that used in defining "toe." The "heel" is "the sidewall region of the club head (not including the face, or hitting surface) nearest the shaft end of the club head, extending vertically from the sole (the bottom of the club head) to the crown (the top portion of the club head)."

*c. Toe Side*

Saso construes "toe side" as "the portion of the club head opposite the shaft side from the vertical plane that extends through the vertical club face centerline." The "vertical club face centerline" is a line that extends through the center of the club face (*i.e.*, the hitting surface). This centerline would include the "sweet spot," the most advantageous point at which to strike the ball.

Designating the vertical plane that extends through the vertical club face centerline as the boundary between toe side and heel side gives definite boundaries to the toe side and heel side. It also has a certain logic because the overall purpose of the



invention is to increase stability by moving the center of gravity of the club head away from the toe side and toward the heel side. Nevertheless, the Court finds it difficult to reconcile the use of the centerline as the boundary between toe side and heel side with the words of the Claim. The Claim is for:

A golf club comprising:

- . . .
- [a] metallic wood type head further comprising a toe, a heel, and a back side profile shape extending from the toe side to the heel side, said back side profile shape **between the toe and a most rearwardly point** of said metallic wood type head having a radius of curvature that is larger than the radius of curvature of said back side profile shape **between the most rearwardly point of said metallic wood type head and the heel.**

(emphasis added).

The "most rearwardly point" (a term the Court has yet to construe) is a point that, depending on the design of the club head, may or may not coincide with the vertical club face centerline. The Claim implicitly makes the most rearwardly point the dividing line between toe side and heel side. Therefore, the Court construes "toe side" as "the portion of the club head farthest from the shaft that includes the toe and extends from the toe to the vertical plane that is perpendicular to the hitting surface and intersects the club head at its most rearwardly point."

*d. Heel Side*

In line with its construction of "toe side," the Court construes "heel side" as "the portion of the club head nearest the

shaft that includes the heel and extends from the heel to the vertical plane that is perpendicular to the hitting surface and intersects the club head at its most rearwardly point."

### **3. Back Side Profile Shape**

Saso proposes that the Court construe "back side profile shape" as "the top profile shape of the back of the club head opposite the front or face of the club head." Saso's brief additionally offers a gloss on this construction which limits the range of the backside profile shape to the area between lines extending up and down from the vertical centerline at 45-degree angles. The Court is at a loss to find any basis in the intrinsic evidence for this gloss.

Indeed, as Nike points out (Dkt. #96, p. 9, Illustration 1), this use of 45-degree angles renders meaningless Saso's Figure 1 of the patent (Patent, Sheet 1). It does so by excluding from the crucial curvature measurements a substantial portion of the additions and subtractions to the club head that are the core of Saso's invention.

The Court therefore rejects Saso's gloss on the definition of "backside profile shape" in favor of a construction that includes all of the toe and the heel. The Court construes "backside profile shape" as "the profile shape of the club head, as viewed from above, not including the hitting surface, but including the heel,

the toe, and all points between them on the right side of the club head."

#### **4. *Most Rearwardly Point***

Saso asks the Court to construe "most rearwardly point" as "the most rearward point of the back side profile shape, determined by reference to the reference plane, which is the vertical plane extending: (1) through the vertical centerline of the club face where the center of the ball is typically intended to be struck; and (2) in line with the centerline." This assumes that the most rearward point coincides with the vertical centerline that goes through the center of the club face or "sweet spot."

While it is possible for the most rearwardly point to coincide with the vertical centerline in some embodiments of the patent, the Court finds nothing in the plain text of the Claim or specification to suggest that the two must coincide in all embodiments. Indeed, Saso's Figure 3 in its opening claim construction brief (Dkt. #80, p. 18) expressly presents a hypothetical club head in which the most rearward point does not pass through the vertical centerline.

The Claim does not refer to a "vertical centerline," only to "most rearwardly point." The closest that the patent comes to mentioning a vertical centerline occurs in the abstract, which states that the shift in volume from the toe to the heel "will reduce the rotational radius of the head about a vertical line, as a rotational center line, when the golf club is suspended at the

upper end of the shaft." This does not define "centerline" in terms of the center of the hitting surface, nor does the specification define the most rearwardly point as necessarily coinciding with a vertical centerline.

A plain reading of the Claim suggests that a person skilled in the art would take "most rearwardly point" to refer to the point on the sidewall of the club head most distant from the hitting surface, whether that point coincides with the center of the hitting surface or not. If Saso had meant to divide the toe side from the heel side at the line passing through the center of the hitting surface, it could have easily defined the boundary in those terms; but it did not. The Court therefore finds that it must construe "most rearwardly point" as "the point on the sidewall of the club head most distant from the hitting surface, along a vertical plane perpendicular to the hitting surface."

#### **5. "A Radius of Curvature" vs. "The Radius of Curvature"**

The Court now reaches the most troublesome phrase in the Claim:

[S]aid back side profile shape between the toe and a most rearwardly point of said metallic wood type head having **a radius of curvature** that is larger than **the radius of curvature** of said back side profile shape between the most rearwardly point of said metallic wood type head and the heel.

(emphasis added).

The Court finds no difficulty in the alternate use of "a" and "the." The Claim contemplates that an unspecified radius of curvature on the toe side will be compared to the known radius of curvature on the heel side. The radius on the toe side may be of any length (hence, "a" radius of curvature) as long as it is larger than "the" radius of curvature on the heel side. The real question is the meaning of "radius of curvature."

This brings us to the heart of Saso's invention. Saso's golf club attempts to shift the center of gravity of the club head to the heel side by increasing the amount of mass on the heel side. A larger radius of curvature means a flatter curve, while a smaller radius of curvature means a more bulging, or "curvier" curve. This is well demonstrated in Figure 1 of the patent. As long as the radius of curvature on the toe side is larger than that on the heel side, the toe side will be flatter and the heel side will be curvier and have a greater bulge. This results in more mass on the heel side.

So far, so good, but the real question is how one determines which radius of curvature is larger. Saso argues that no numerical values are needed. This may be true in the particular embodiment shown in Figure 1, where one may "eyeball" the diagram and see that the toe side has a distinctly flatter curve than the heel side. But the Claim is not limited to the embodiments in the specification. See *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d

898, 906 (Fed. Cir. 2004). Other embodiments could exist in which the "eyeball" method would fail and one would be reduced to physical measurement to determine which radius of curvature is larger. Exactly what would one measure?

The difficulty arises because curves on a golf club head are not always simple curves, *i.e.*, curves that are part of a perfect circle. Curves on a golf club head are often complex curves having more than one radius. Other inventors need to know the bounds of Saso's Claim so that they may avoid infringing the patent. Saso argues that "radius of curvature" means the "average radius of curvature" and that determining this is a routine matter.

The flaw in Saso's argument is that the Claim and specification say nothing about averaging radii, nor do they suggest that there should be more than one radius each for the heel side and the toe side. Both terms, "a radius of curvature" and "*the* radius of curvature" necessarily imply *singular*, not plural, items.

The only way that the Court can make sense of the last paragraph of the Claim is to assume that the back side profile shape on both the heel side and the toe side are parts of circles, each having only one radius. If either were part of a complex curve having many radii, then a person skilled in the art would be at a loss to determine which radii on the toe side should be compared to which radii on the heel side. While this construction

may severely limit the scope of Saso's Claim, the Court sees no alternative based on the terms of the Claim.

The Court therefore construes "radius of curvature" to mean "radius of a substantially circular curve of a substantial portion of the back side profile shape."

## **6. Golf Club**

Saso proposes the following construction of "golf club": "a golf ball hitting implement having a head and a shaft that is suitable and intended for playing the game of golf." Nike's proposed claim construction differs from Saso's only in that (1) it omits the words, "the game of" and (2) adds one sentence: "This language does not require the golf club to conform to any established rules of golf." As the patent contains no requirement that the invention conform to any established rules of golf and both parties agree that a "golf club" need not conform to established golf rules, the Court accepts Nike's construction.

## **B. Construction of Claim 7**

The Court therefore construes Claim 7 as follows, again assuming a right-handed golf club held by a right-handed golfer – who is set in a normal swing stance prior to taking a backswing to strike a golf ball – with the sole of the golf club touching the ground. The words of the Claim are shown in boldface italics and the Court's construction in roman type.

***A golf club comprising:***

"A golf club" means "a golf ball hitting implement having a head and a shaft that is suitable and intended for playing golf." This language does not require the golf club to conform to any established rules of golf.

***a metallic wood type head including a cylindrical hosel portion formed integrally therewith;***

"[M]etallic wood type head" refers to a hollow metal wood head. This language does not require that the head be made *only* of metal. As a nonlimiting example, the metal wood head could have some type of nonmetal coating on the head exterior, or a filler material in a hollow cavity of the club head.

The head includes a "hosel," the socket into which the shaft fits, which connects the shaft to the head. The "shaft" is the long, narrow section including the handle of the club, by which the golfer holds the club. The hosel may be an outwardly extending hosel or an inward hosel. To say the hosel is cylindrical is to say that the internal shape of the hosel is cylindrical.

"Integrally formed therewith" means that the hosel is integral to the body of the club head and the resulting club head is a single unit.

***said metallic wood type head having a heel side and a toe side,***

The "heel side" is the portion of the club head nearest the shaft that includes the heel and extends from the heel to the



vertical plane that is perpendicular to the hitting surface and intersects the club head at its most rearwardly point.

The "toe side" is the portion of the club head farthest from the shaft that includes the toe and extends from the toe to the vertical plane that is perpendicular to the hitting surface and intersects the club head at its most rearwardly point.

***said metallic wood type head having a hitting surface extending from the toe side to said heel side, the hitting surface having substantially the same curvature along a transverse direction as a longitudinal direction,***

The "hitting surface" is the face of the golf club head, i.e., the surface of the head that makes contact with the ball during striking.

The metal wood head has a golf club head face, or hitting surface, of which a substantial portion (not necessarily all) has substantially the same curvatures along the transverse direction as along the longitudinal direction.

***said metallic wood type head further comprising a toe, a heel, and a back side profile shape extending from the toe side to the heel side,***

The "toe" is the sidewall region of the club head (not including the face, or hitting surface) opposite the shaft, extending vertically from the sole to the top portion of the club head. "Sole" refers to the bottom part of the club head, which rests on the ground. The "top" (or "crown") is the portion of the

club head opposite the sole. "Sidewall" refers to a wall forming the side of the club.

The "heel" is the sidewall region of the club head (not including the face, or hitting surface) nearest the shaft end of the club head, extending vertically from the sole (the bottom of the club head) to the crown (the top portion of the club head).

The "back side profile shape" is the profile shape of the club head, as viewed from above, not including the hitting surface, but including the heel, the toe, and all points between them on the right side of the club head.

***said back side profile shape between the toe and a most rearwardly point of said metallic wood type head having a radius of curvature that is larger than the radius of curvature of said back side profile shape between the most rearwardly point of said metallic wood type head and the heel.***

The "most rearwardly point" is the point on the sidewall of the club head most distant from the hitting surface, along a vertical plane perpendicular to the hitting surface.

"[S]aid back side profile shape between the toe side and most rearwardly point" refers to the portion of the back side profile from the most rearwardly point to the end of the back side profile shape on the toe side.

"[S]aid back side profile between the most rearwardly point of said metallic wood type head and the heel side" means the portion of the back side profile shape from the most rearwardly point to the end of the back side profile shape on the heel side.

"[R]adius of curvature" means "radius of a substantially circular curve of a substantial portion of the back side profile shape."

In other words, (1) the curve of the back side profile shape between the toe side and most rearwardly point (the "toe side curve") is substantially circular, (2) the curve of the back side profile shape between the heel side and most rearwardly point (the "heel side curve") is substantially circular, and (3) the radius of curvature of the "toe side curve" is greater than the radius of curvature of the "heel side curve."

#### **IV. CONCLUSION**

The Court finds that Claim 7 of U.S. Patent No. 5,645,495 is not indefinite and construes the Claim as set forth herein.

**IT IS SO ORDERED.**



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Harry D. Leinenweber, Judge  
United States District Court

**DATE: 11/1/2010**